

Installation Guide

hp StorageWorks HA-Fabric Manager Appliance

Product Version: FW v06.xx/HAFM SW v08.02.00

(July 2004) Second Edition

Product Number: AA-RU5FB-TE/958-000324-001

This document provides instructions to perform initial setup and configuration of the HAFM appliance. This document also describes backup and restore procedures, install and upgrade procedures, HAFM appliance-specific diagnostics, and how to optionally rack-mount the HAFM appliance in a standard, customer-supplied, 19-inch equipment cabinet.



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About This Guide

This installation guide provides information to help you:

- Set up and connect the one rack unit (1U) high rack-mount HA-Fabric Manager (HAFM) appliance.
- Configure HAFM appliance features.
- Back up and restore the HAFM appliance.
- Install the HAFM appliance and its slide-out shelf into a supported equipment cabinet.
- Install or upgrade HAFM software.
- Troubleshoot and resolve HAFM appliance and application problems.

“About this Guide” topics include:

- [Overview](#)
- [Conventions](#)
- [Rack Stability](#)
- [Getting Help](#)

Overview

This section covers the following topics:

- [Intended Audience](#)
- [Related Documentation](#)

Intended Audience

This book is intended for use by administrators and technicians who are experienced with the following:

- Fibre Channel technology.
- StorageWorks Fibre Channel switches by Hewlett-Packard.

Related Documentation

For a list of corresponding documentation, see the Related Documents section of the Release Notes that came with this product. For the latest information, documentation, and firmware releases, please visit the HP StorageWorks web site:

<http://h18006.www1.hp.com/storage/saninfrastructure.html>.

For information about Fibre Channel standards, visit the Fibre Channel Industry Association web site, located at: <http://www.fibrechannel.org>.

Conventions

Conventions consist of the following:

- [Document Conventions](#)
- [Text Symbols](#)
- [Equipment Symbols](#)

Document Conventions

The document conventions included in the [Table 1](#) table below apply in most cases.

Table 1. Document Conventions

| Element | Convention |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Cross-reference links | Blue text: Figure 1 |
| Key and field names, menu items, buttons, and dialog box titles | Bold |
| File names, application names, and text emphasis | Italics |
| User input, command and directory names, and system responses (output and messages) | Monospace font COMMAND NAMES are uppercase monospace font unless they are case sensitive |
| Variables | <monospace, italic font> |
| Web site addresses | Blue, underlined sans serif font text: http://www.hp.com |

Text Symbols

The following symbols may be found in the text of this guide. They have the following meanings:



Warning

Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.



Caution

Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Note

Text set off in this manner presents commentary, sidelights, or interesting points of information.

Equipment Symbols

The following equipment symbols may be found on hardware for which this guide pertains. They have the following meanings:



Any enclosed surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. Enclosed area contains no operator serviceable parts.

WARNING: To reduce the risk of personal injury from electrical shock hazards, do not open this enclosure.

Any RJ-45 receptacle marked with these symbols indicates a network interface connection.

WARNING: To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

Any surface or area of the equipment marked with these symbols indicates the presence of a hot surface or hot component. Contact with this surface could result in injury.

WARNING: To reduce the risk of personal injury from a hot component, allow the surface to cool before touching.

Power supplies or systems marked with these symbols indicate the presence of multiple sources of power.

WARNING: To reduce the risk of personal injury from electrical shock, remove all power cords to completely disconnect power from the power supplies and systems.

Any product or assembly marked with these symbols indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manually handling material.

Rack Stability

Rack stability protects personnel and equipment.



Warning

To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
 - The full weight of the rack rests on the leveling jacks.
 - In single rack installations, the stabilizing feet are attached to the rack.
 - In multiple rack installations, the racks are coupled.
 - Only one rack component is extended at any time. A rack may become unstable if more than one rack component is extended for any reason.
-

Getting Help

If you still have a question after reading this guide, contact an HP authorized service provider or access our Web site: <http://www.hp.com>.

HP Technical Support

Telephone numbers for worldwide technical support are listed on the following HP Web site: <http://www.hp.com/support/>. From this Web site, select the country of origin.

Note

For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP Storage Web Site

The HP Web site has the latest information on this product, as well as the latest drivers. Access storage at: <http://www.hp.com/country/us/eng/prodserv/storage.html>. From this Web site, select the appropriate product or solution.

HP Authorized Reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP Web site for locations and telephone numbers: <http://www.hp.com>.

Chapter 1. Initial Setup

HAFM Appliance Description

The HAFM appliance (Figure 1-1) is a one rack unit (1U) high rack-mount device with the High Availability Fabric Manager (HAFM) application installed. HAFM provides a graphical user interface (GUI) for operating and managing the Directors and Edge Switches.



Figure 1.1. HAFM Appliance

The HAFM appliance also includes a TightVNC Viewer version 1.2.7 client-server software control package that provides remote network access (through a standard web browser) to the server desktop, enabling remote users to manage the Directors and Edge Switches using the HAFM and Element Manager applications. For information about the TightVNC Viewer, refer to <http://www.tightvnc.com>.

Note

The HAFM appliance and related applications provide a GUI to monitor and manage Directors and Edge Switches, and are a dedicated hardware and software solution that should not be used for other tasks. HP tests the HAFM application installed on the HAFM appliance, but does not compatibility test other third-party software. Modifications to the HAFM appliance hardware or installation of additional software (including patches or service packs) are not supported, and may interfere with normal operation.

Front Panel

Figure 1-2 shows the HAFM appliance front panel indicators and controls.



Figure 1.2. HAFM Appliance front panel features

- ❶ — Push label (opens LCD panel)
- ❷ — Liquid Crystal Display (LCD)
- ❸ — Hard Disk Drive (HDD) LED
- ❹ — Fan LED
- ❺ — LAN 1 status indicator
- ❻ — LAN 2 status indicator
- ❼ — LCD navigation buttons
- ❽ — Power on/off button

Factory Defaults

[Table 1-1](#) lists factory-set defaults for the HAFM appliance.

Table 1.1. Factory-Set Defaults (HAFM Appliance)

| Item | | Default |
|----------------------------------------------------------|------------|---------------|
| Liquid crystal display (LCD) front panel password | | 9999 |
| Tight VNC Viewer password (case sensitive) | | password |
| Windows 2000 operating system user name (case sensitive) | | Administrator |
| Windows 2000 operating system password (case sensitive) | | password |
| HAFM application user name (case sensitive) | | Administrator |
| HAFM application password (case sensitive) | | password |
| LAN 1 (public interface) | IP address | 192.168.0.1 |
| Subnet mask | 255.0.0.0 | |
| Gateway address | 0.0.0.0 | |
| LAN 2 (private interface) | IP address | 10.1.1.1 |
| Subnet mask | 255.0.0.0 | |
| Gateway address | 0.0.0.0 | |

Kit Contents

The fully-configured appliance is delivered with a:

- HAFM appliance with the following minimum specifications:
 - Intel® Pentium® 4 processor with an 1,800 megahertz (MHz) or greater clock speed.
 - 1,024 megabyte (MB) or greater RAM.
 - 40 gigabyte (GB) or greater internal hard drive.
 - 1.44 MB 3.5-inch slim-type disk drive and slim-type compact disk-rewritable (CD-RW) drive.
 - 56K internal modem and modem adapter with RJ-11 connector.
 - Two 10/100 Mbps Ethernet adapters with RJ-45 connectors.
 - Hinged liquid crystal display (LCD) front panel.
 - Microsoft Windows® 2000 Professional operating system.
 - TightVNC™ Viewer Version 1.2.7 client-server software control package that provides remote network access (through a standard web browser) to the appliance desktop.

Current platforms may ship with more enhanced hardware, such as a faster processor, additional random-access memory (RAM), or a higher-capacity hard drive.

- Ship group kit, containing:
 - HAFM appliance.
 - Ten (10) square alignment washers (required for rack-mounting in HP 9000, 10000 and 11000 series racks).
 - HAFM application CD-ROM.
 - HAFM boot/restore CD-ROM.
 - Norton AntiVirus CD-ROM.
 - Modem cable with RJ-11 connectors.
 - CD-RW (blank).
 - HAFM Release Notes.
 - 10-ft. Ethernet cable.
 - PDU power cord.
 - 110-volt AC power cord.
 - Null modem cable.
 - Modem phone cable.
 - Generic documentation for the HAFM appliance.
- Rack-mount hardware kit, containing:
 - Two (2) rear brackets (short) that attach to the cabinet (3.0 inches).
 - Two (2) optional rear brackets (long) that attach to the cabinet (15.25 inches).
 - One (1) left slide rail that attaches to the appliance (19.25 inches).
 - One (1) right slide rail that attaches to the appliance (19.25 inches).
 - Two (2) two-hole bar nuts for bolting the front and rear brackets together.
 - Four (4) three-hole bar nuts for attaching the brackets to the rack-mounting standards.

Figure [Figure 1-3](#) illustrates the front and rear brackets, slide rails, and bar nuts.

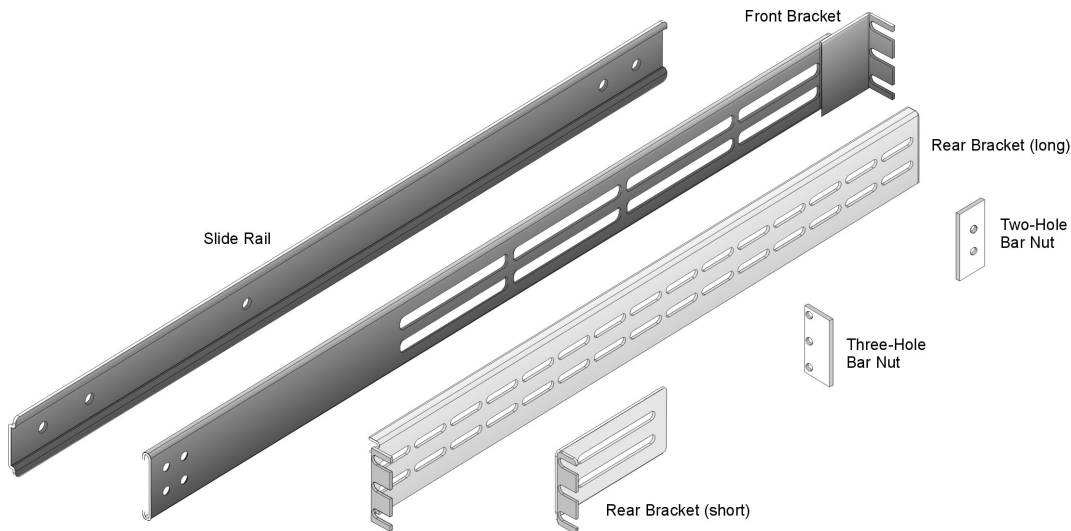


Figure 1.3. Mounting Brackets, Slide Rails, and Bar Nuts

- Mounting screws:
 - Ten (10) pan-head Phillips screws (#10 x 1/2) with split lock and flat washers that secure the bracket assemblies to the vertical rack-mounting standards.
 - Ten (10) pan-head Phillips screws (M4 x 10 centimeter) with split lock and flat washers that secure the slide rails to the appliance.
 - Four (4) flat-head Phillips machine screws (#8 x 7/16) that secure the two-hole bar nuts, front brackets, and rear brackets.
 - Two (2) hexagonal-nut standoffs.

[Figure 1-4](#) illustrates the standoff and mounting screws.

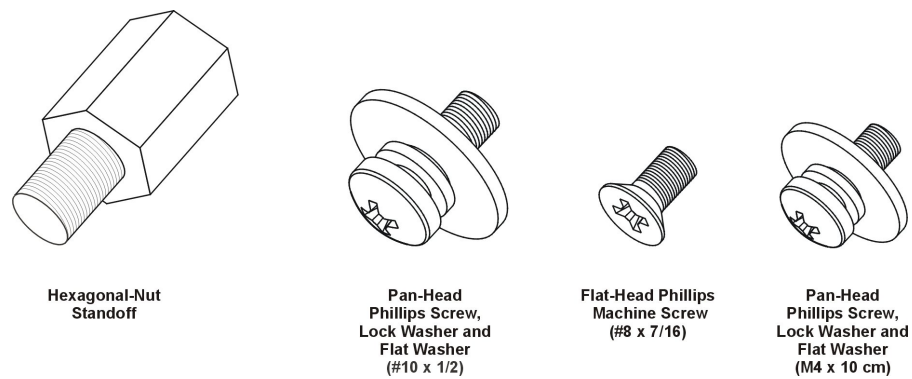


Figure 1.4. Hexagonal-Nut Standoff and Mounting Screws

Chapter 2. Installation

The HAFM appliance can be installed in a customer-supplied cabinet as long as the following requirements are met:

- The mounting standard-to-mounting standard cabinet depth must be from 18 inches to 32 inches to accommodate the rack mount kit. The HP rack mount kit must be used to install the appliance.
- It is the customer's responsibility to accurately calculate power requirements for the appliance and switches installed in the cabinet. HP is not responsible for power-related problems resulting from equipment installed in a customer-supplied cabinet.

Installing the HAFM Appliance

Perform the following to install the HAFM appliance in the cabinet:

- Assemble and attach the front and rear brackets to the cabinet.
- Attach the left and right slide rails to the appliance.
- Install the appliance in the cabinet.
 - If you are not installing the HAFM appliance in a cabinet, go to [Connecting the HAFM Appliance](#).

Attaching Front and Rear Brackets

To assemble the front and rear brackets and attach the assemblies to the cabinet:

1. Consult with the customer and determine the cabinet installation position for the appliance. The appliance is 1.75 inches or one rack unit (1U) high.

2. The depth of the equipment cabinet determines if the long rear mounting bracket or short rear mounting bracket is used.
 - a. Using a tape measure (provided by installation personnel), measure and record the depth of the left side of the cabinet from the inside of the front vertical rack-mounting standard to the inside of the rear vertical rack-mounting standard.
 - b. Measure and record the depth of the right side of the cabinet from the inside of the front vertical rack-mounting standard to the inside of the rear vertical rack-mounting standard.
3. Using a #2 Phillips screwdriver and eight (8) of the ten pan-head Phillips screws (#10 x 1/2) and, if you are installing the server in an HP 9000, 10000 or 11000 rack, eight (8) square alignment washers, attach four (4) three-hole bar nuts to the rack-mounting standards as follows:
 - a. Align each three-hole bar nut with the rack-mounting standard as shown in [Figure 2-1](#). Ensure each bar nut is mounted with the narrow side (drilled holes-to-edge side) facing the inside of the cabinet.

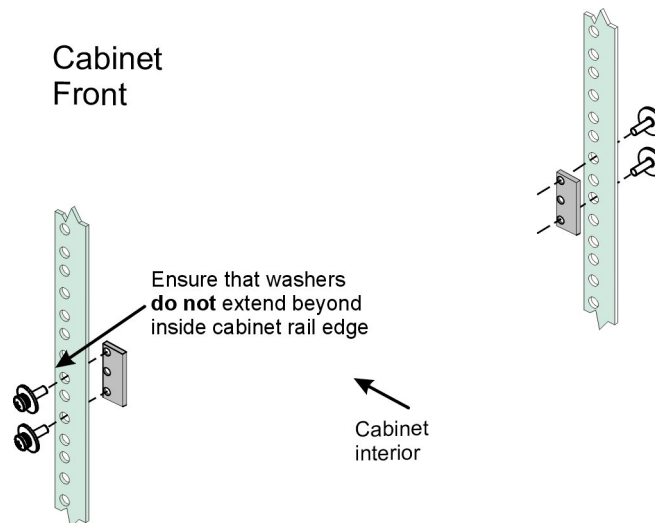


Figure 2.1. Three-Hole Bar Nut Alignment

Note

Ensure the bar nut screw washers do not overlap the inside edges of the rack-mounting standards and mounting brackets. Washer overlap may interfere with slide rail operation.

Note

Figure 2-1 depicts the right-side rails of the cabinet. This figure does not depict the square alignment washers required if you are installing the bar nuts in an HP 9000, 10000, or 11000 series cabinet.

- b. Attach each bar nut using two screws (first and third holes) per nut.

Note

If you are installing the bar nuts on an HP 9000, 10000, or 11000 series cabinet, add a square alignment washer to each screw, orienting the protruding alignment bumps with the rack-mounting standard.

- c. Partially tighten each screw, leaving enough space for the front and rear bracket flanges to insert between the rack-mounting standards and bar nuts.
- 4. Depending on the cabinet depth measured in step 2, attach each front bracket to a rear (short or long) bracket. If the cabinet depth is under 22 inches, use one front bracket and one short rear bracket. If the cabinet depth is over 22 inches, use one front bracket and one long rear bracket.
Be sure to choose the slots in the rear bracket which will result in the length of the combined front and rear bracket to match the cabinet depth measured in step 2.
 - a. Using a #2 Phillips screwdriver and two (2) flat-head Phillips machine screws (#8 x 7/16) per bracket assembly, connect a front and rear bracket together with a two-hole bar nut as shown in Figure 2-2.

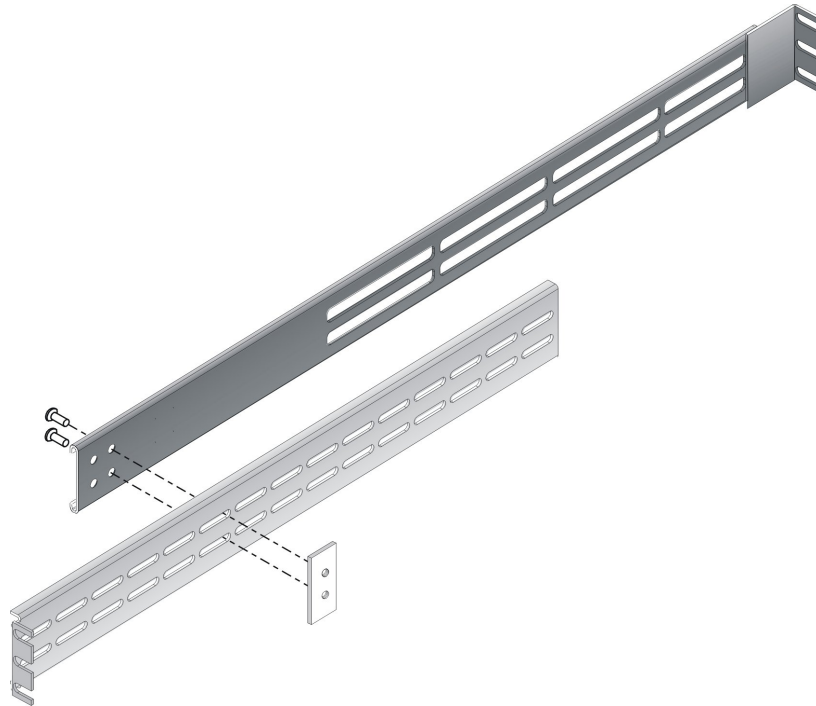


Figure 2.2. Front and Rear Bracket Assembly

- b. Partially tighten each screw so that the assembly is held together but not completely secure. This allows for slight adjustment of the bracket length during installation in the cabinet.
 - c. Ensure the left and right bracket assembly lengths are equal to the cabinet depths recorded in step 2.
5. Attach each bracket assembly to the rack-mounting standards as shown in [Figure 2-3](#). If the appliance mounts through the front of the cabinet, ensure the front bracket portion of the assembly faces the cabinet front.

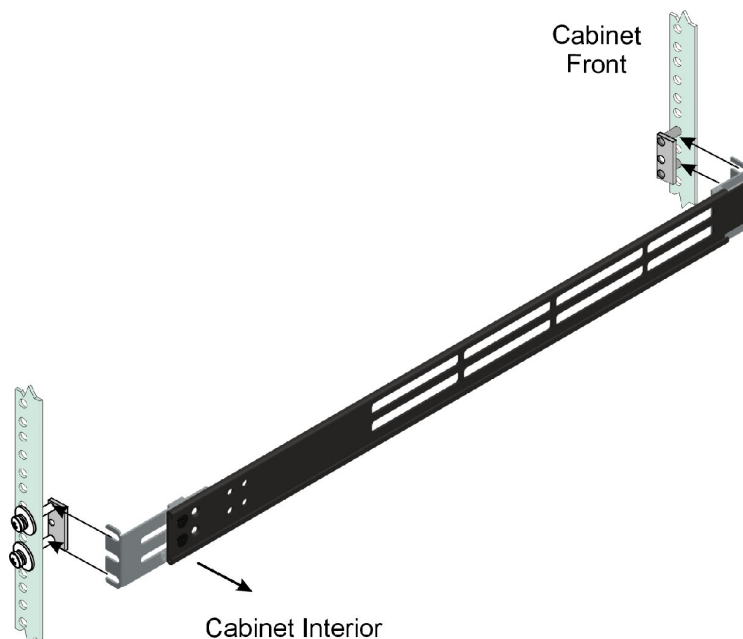


Figure 2.3. Bracket Installation

- a. Slide the mounting bracket flanges between the bar nuts and rack-mounting standards. Adjust the overall length of each bracket assembly if required.
- b. To allow tolerance for appliance installation, tighten the three-hole bar nut screws (bracket-to-rack mounting standard) so the brackets are stable, but can be moved laterally.

Note

Ensure the bar nut screw washers do not overlap the inside edges of the rack-mounting standards and mounting brackets. Washer overlap may interfere with slide rail operation.

- c. Using a #2 Phillips screwdriver, securely tighten the bar nut screws (two per bracket assembly, four total) that connect the front and rear brackets.

Installing Slide Rails

To attach the left and right slide rails to the HAFM appliance:

1. As shown in [Figure 2-4](#), attach the left and right slide rails to the appliance with ten (10) pan-head Phillips screws (M4 x 10 cm). Use five (5) screws per side. Ensure the screws are securely tightened.

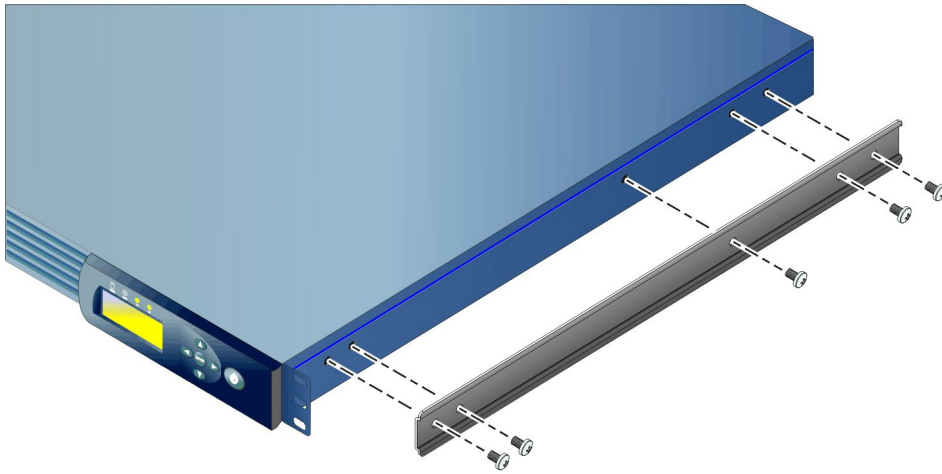


Figure 2.4. Slide Rail Installation

Installing the Appliance

To install the appliance in the equipment cabinet:

1. If the front bracket portions of the bracket assemblies are installed at the front of the cabinet (typical installation), install the server through the cabinet front.
2. While fully supporting the appliance, slide the appliance and attached slide rails into the mounting brackets as shown in [Figure 2-5](#).

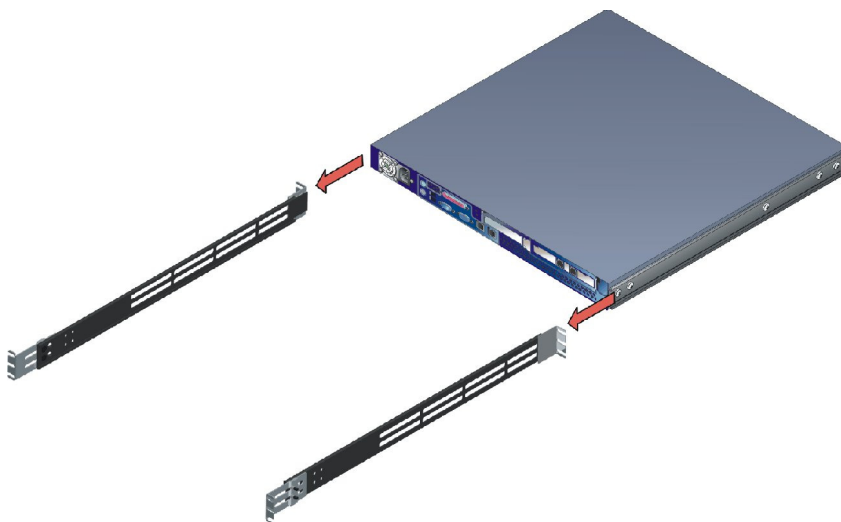


Figure 2.5. Appliance Installation

3. Using a #2 Phillips screwdriver, securely tighten the bar nut screws (four per assembly, eight total) that connect the bracket assemblies to the rack-mounting standards.
4. Install one hexagonal-nut standoff per side (two total) to prevent the appliance from moving. At the front of the appliance (as shown in [Figure 2-6](#)), screw a standoff through the remaining (center) hole where each three-hole bar nut attaches to the rack-mounting standard. Secure each standoff with a 5/16 open-end wrench.

Note

If you are installing the server in an HP 9000, 10000, or 11000 series rack you will also need to install a square alignment washer with each hexagonal-nut standoff.

5. As shown in [Figure 2-6](#), use the two (2) remaining pan-head Phillips screws (#10 x 1/2) to secure the appliance rack-mount ears (factory-installed on the appliance) to the hexagonal-nut standoffs. Secure the screws with a #2 Phillips screwdriver.

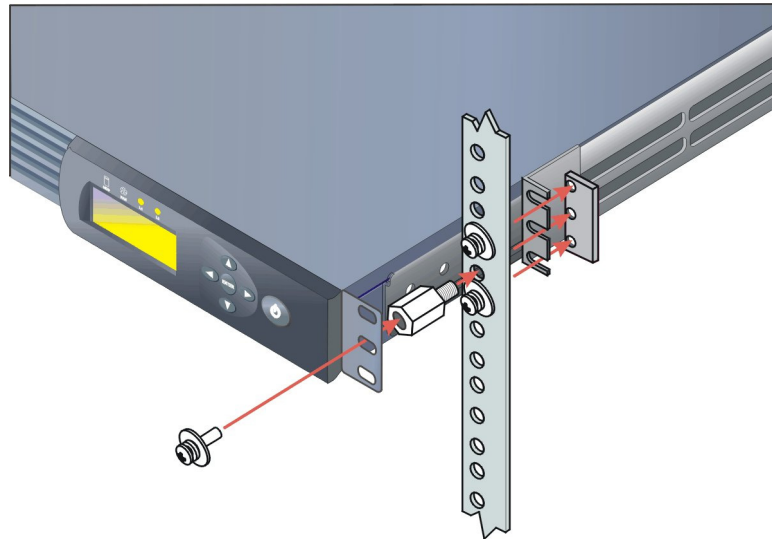


Figure 2.6. Install Hexagonal-Nut Standoffs and Securing Screws

Note

Figure 2-6 does not depict the square alignment washers required between the hexagonal-nut standoff and rack standard in an HP 9000, 10000, or 11000 series cabinet.

Connecting the HAFM Appliance

You can connect the HAFM appliance to the single customer-supplied corporate Ethernet LAN, with or without an HP-supplied Ethernet hub. This allows remote sessions to the HAFM appliance from anywhere on the corporate LAN, provides access to manage the Directors and Edge Switches on this LAN, and allows access to applications such as HP OpenView Storage Area Manager.

Optionally, you can configure a separate dedicated private LAN between the HAFM appliance, and the Directors and Edge Switches that it manages.

Note

The dedicated private LAN precludes the use of the HP OpenView Storage Area Manager application.

Before connecting the HAFM appliance, ensure that it is positioned in its final installation location on a table or desktop, or installed in an equipment cabinet.

**Caution**

Do not connect the HAFM appliance to a network that could expose HAFM to a virus until Norton AntiVirus software is installed. Norton AntiVirus software is included with the HAFM appliance. HP recommends that you connect a PC and the HAFM appliance on a private LAN to perform initial setup. After initial setup is completed, you can connect the HAFM appliance to your LAN.

1. Connect the appliance to the customer's corporate intranet (public LAN interface). To connect the HAFM appliance:
 - a. As shown in [Figure 2-7](#), connect one end of a customer-supplied Ethernet patch cable to the left RJ-45 adapter (LAN 1) at the rear of the appliance.
 - b. Connect the remaining end of the Ethernet cable to the corporate intranet as directed by the customer's network administrator.

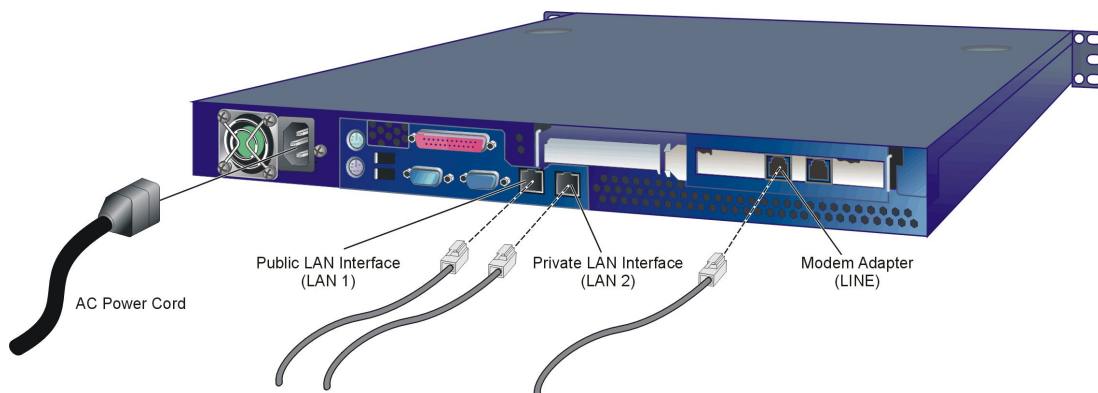


Figure 2.7. HAFM Appliance Connections

2. If required, connect the appliance to the customer-supplied Ethernet LAN segment or HP-supplied Ethernet hub (private LAN interface). To connect the HAFM appliance:
 - a. As shown in [Figure 2-7](#), connect one end of the Ethernet patch cable (supplied with the HAFM appliance) to the right RJ-45 adapter (LAN 2) at the rear of the appliance.
 - b. Connect the remaining end of the Ethernet cable to the LAN as follows:
 - If the HAFM appliance is installed on a customer-supplied LAN segment, connect the cable to the LAN as directed by the customer's network administrator.
 - If the HAFM appliance is installed on the HP-supplied Ethernet hub, connect the cable to any available hub port.

3. As shown in [Figure 2-7](#), connect the phone cord to the left RJ-11 adapter (LINE) at the rear of the appliance and to a facility telephone connection.

Powering On the HAFM Appliance

To power on the HAFM appliance:



Warning

Use the supplied power cords. Ensure the facility power receptacle is the correct type, supplies the required voltage, and is properly grounded.

1. As shown in [Figure 2-7](#), connect the AC power cord to the appliance and to a facility power source or rack power strip that provides single-phase, 90 to 264 VAC current. When the power cord is connected, the appliance powers on and performs power-on self-tests (POSTs). During POSTs:
 - a. The green liquid crystal display (LCD) panel illuminates.
 - b. The green hard disk drive (HDD) LED blinks momentarily, and processor speed and random-access memory information display momentarily at the LCD panel.
 - c. After a few seconds, the LCD panel displays the following message pertaining to boot sequence selection ([Figure 2-8](#)):



Figure 2.8. LCD Panel During Boot Sequence

- d. Ignore the message. After ten seconds, the appliance performs the boot sequence from the basic input/output system (BIOS). During the boot sequence, the appliance performs additional POSTs and displays the following operational information at the LCD panel:
 - Host name.
 - System date and time.
 - LAN 1 and LAN 2 Internet Protocol (IP) addresses.
 - Rotational speed status on multiple appliance fans.
 - Central Processing Unit (CPU) Temp
 - Hard disk capacity

- Virtual and physical memory capacity

After successful boot and POST completion, the LCD panel displays a Welcome!! message.

2. Press the left edge (PUSH label) of the LCD panel to disengage the panel and expose the CD-RW drive.
3. Insert a blank rewritable CD into the CD-RW drive and close the LCD panel.

Chapter 3. Configuration

Configuring Appliance Password and Network Addresses

Verify the type of LAN installation with the customer's network administrator. If the HAFM server or equipment cabinet is installed on a dedicated LAN, network information does not require change. Change the default password for the server's LCD panel (if required by the customer), then go to [Configuring Additional Appliance Information](#).

If the HAFM appliance is installed on a public LAN segment, change the default password for the appliance's LCD panel and the following transmission control protocol/internet protocol (TCP/IP) network information to conform to the customer's LAN addressing scheme:

- IP address.
- Subnet mask.

Note

At some customer installations, TCP/IP addresses for the appliance may be allocated automatically using dynamic host configuration protocol (DHCP).

Configuring LCD Panel Password

To configure a new LCD panel password at the appliance:

1. At the LCD panel, press **ENTER**. The Welcome!! or operational information message changes to the following (Figure 3-1):

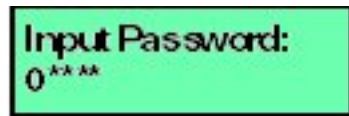


Figure 3.1. LCD Panel (Password Entry)

2. Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message displays at the LCD panel.
3. Press the **▼** button several times until the Change Password? option displays at the LCD panel, then press **ENTER**. The following message displays (Figure 3-2):



Figure 3.2. LCD Panel (New Password)

4. Use the arrow keys as described in step 2 to input a new 4-digit numeric password, then press **ENTER**. The following message displays (Figure 3-3):

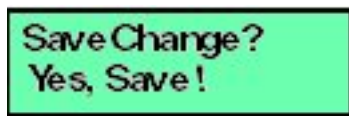


Figure 3.3. LCD Panel (Save Change)

5. Press **ENTER**. A Wait a moment!! message displays at the LCD panel, the LCD panel returns to the LAN 1 Setting?? message, and the password changes.
6. Press the up and down arrow keys until Return?? is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.

Configuring Public LAN Addresses

Note

Before starting this procedure, ensure that the LAN 1 interface is physically connected to the LAN. An LCD display of 0.0.0.0 indicates a physical LAN connection is not present.

You can configure the public LAN connection (LAN 1) using one of the following methods:

- Use Dynamic Host Control Protocol (DHCP) to assign the HAFM server IP address, subnet mask, and default gateway IP address. You can either auto-detect or manually select the DNS server IP address.
- Manually enter the HAFM server IP address, subnet mask, default gateway IP address, and DNS server IP address.

Configuring Public LAN Addresses Using DHCP

To configure TCP/IP network information for the private LAN connection (LAN 1):





Note

Before starting this procedure, ensure that the LAN 1 interface is physically connected to the LAN. An LCD display of 0.0.0.0 indicates a physical LAN connection is not present.

1. At the LCD panel, press **ENTER**. The Welcome!! or operational information message changes to the following (Figure 3-4):



Figure 3.4. LCD Panel (Password Entry)

2. Using the  button to increment a digit, the  button to decrement a digit, the  button to move the cursor left, and the  button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message displays at the LCD panel.

3. Press **ENTER** and the following message displays (Figure 3-5) to allow the selection of DHCP.



Figure 3.5. LCD Panel (DHCP selection)

4. Use the arrow keys as described in step 2 and select **YES** to use DHCP, then press **ENTER**. The following message displays (Figure 3-6):

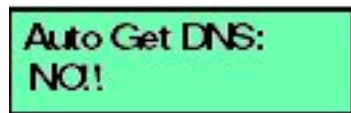


Figure 3.6. LCD Panel (Auto Get DNS)

5. Do one of the following:
 - Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. The DNS address is auto-detected and recorded. Proceed to step 7.
 - Select **NO** by pressing **ENTER**. The following message displays (Figure 3-7).

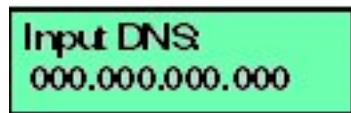


Figure 3.7. LCD Panel (Input DNS)

6. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message displays (Figure 3-8):

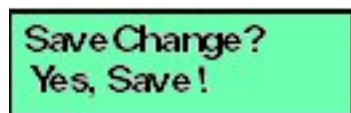


Figure 3.8. LCD Panel (Save Change)

7. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a **Wait a moment!!** message displays at the LCD panel and the LCD panel returns to the LAN 1 Setting?? message.
8. Press the up and down arrow keys until **Return??** is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.

- Record the private LAN IP address and subnet mask for reference if the appliance hard drive fails and must be restored.

Manually Configuring Public LAN Addresses

To configure TCP/IP network information for the private LAN connection (LAN 1):

- At the LCD panel, press **ENTER**. The Welcome!! or operational information message changes to the following (Figure 3-9):

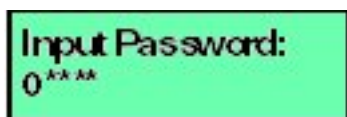






Figure 3.9. LCD Panel (Password Entry)

- Using the  button to increment a digit, the  button to decrement a digit, the  button to move the cursor left, and the  button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message displays at the LCD panel.
- Press **ENTER** and the following message displays (Figure 3-10) with the current LAN1 IP address. (The default is 192.168.0.1).

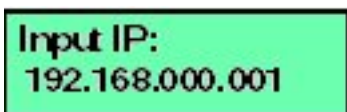


Figure 3.10. LCD Panel (LAN 1 IP Address)

- Use the arrow keys as described in step 2 to input a new IP address, then press **ENTER**. The following message displays (Figure 3-11) with the current subnet mask. (The default subnet mask is 255.0.0.0).



Figure 3.11. LCD Panel (Input Netmask)

5. Use the arrow keys as described in step 2 to input a new subnet mask, then press **ENTER**. The following message displays (Figure 3-12) with an IP address whose first three octets (each three decimal digits) are the same as the IP address entered in step 5, and the last octet is set to decimal 254 (or the default gateway IP address of 0.0.0.0 is displayed).

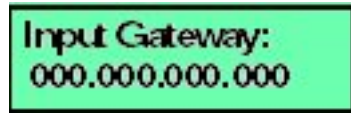


Figure 3.12. LCD Panel (Input Gateway)

6. Use the arrow keys as described in step 2 to input a new gateway IP address, then press **ENTER**. The following message displays (Figure 3-13) with the default DNS server IP address of 0.0.0.0.

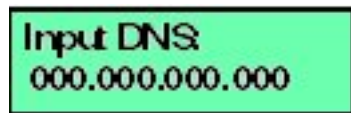


Figure 3.13. LCD Panel (Input DNS)

7. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message displays (Figure 3-14):

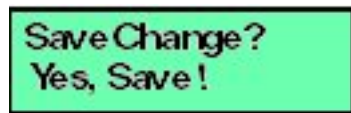


Figure 3.14. LCD Panel (Save Change)

8. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a **Wait a moment!!** message displays at the LCD panel and the LCD panel returns to the LAN 1 Setting?? message.
9. Press the up and down arrow keys until **Return??** is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.
10. Record the private LAN IP address and subnet mask for reference if the appliance hard drive fails and must be restored.

Configuring Private LAN Addresses

Note

Before starting this procedure, ensure that the LAN 2 interface is physically connected to the LAN. An LCD display of 0.0.0.0 indicates a physical LAN connection is not present.

You can configure the private LAN connection (LAN 2) using one of the following methods:

- Use Dynamic Host Control Protocol (DHCP) to assign the HAFM server IP address, subnet mask, and default gateway IP address. You can either auto-detect or manually select the DNS server IP address.
- Manually enter the HAFM server IP address, subnet mask, default gateway IP address, and DNS server IP address.

Manually Configuring Private LAN Addresses Using DHCP

To configure TCP/IP network information for the private LAN connection (LAN 2):

1. At the LCD panel, press **ENTER**. The Welcome!! or operational information message changes to the following (Figure 3-15):

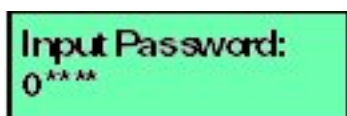


Figure 3.15. LCD Panel (Password Entry)

2. Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message displays at the LCD panel.
3. Press the **▼** button until the LAN 2 Setting?? message displays at the LCD panel.
4. Press **ENTER** and the following message displays (Figure 3-16) to allow the selection of DHCP.

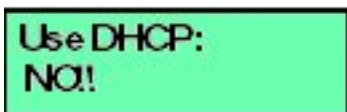


Figure 3.16. LCD Panel (DHCP selection)

5. Use the arrow keys as described in step 2 and select **YES** to use DHCP, then press **ENTER**. The following message displays (Figure 3-17):



Figure 3.17. LCD Panel (Auto Get DNS)

6. Do one of the following:
 - Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. The DNS address is auto-detected and recorded. Proceed to step 8.
 - Select **NO** by pressing **ENTER**. The following message displays (Figure 3-18).

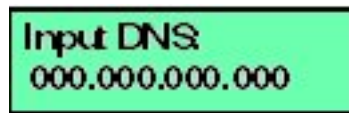


Figure 3.18. LCD Panel (Input DNS)

7. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message displays (Figure 3-19):

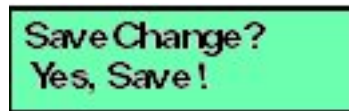


Figure 3.19. LCD Panel (Save Change)

8. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a **Wait a moment!!** message displays at the LCD panel and the LCD panel returns to the LAN 1 Setting?? message.
9. Press the up and down arrow keys until **Return??** is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.
10. Record the private LAN IP address and subnet mask for reference if the appliance hard drive fails and must be restored.

Manually Configuring Private LAN Addresses

To configure TCP/IP network information for the private LAN connection (LAN 2):

1. At the LCD panel, press **ENTER**. The **Welcome!!** or operational information message changes to the following (Figure 3-20):

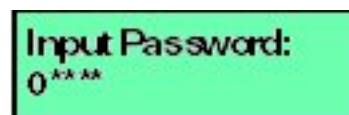


Figure 3.20. LCD Panel (Password Entry)

2. Using the **▲** button to increment a digit, the **▼** button to decrement a digit, the **◀** button to move the cursor left, and the **▶** button to move the cursor right, input the default password (9999), then press **ENTER**. The LAN 1 Setting?? message displays at the LCD panel.
3. Press the **▼** button until the LAN 2 Setting?? message displays at the LCD panel.
4. Press **ENTER** and the following message displays ([Figure 3-21](#)) with the current LAN2 IP address. (The default is 10.1.1.1).

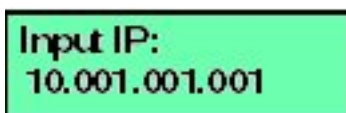


Figure 3.21. LCD Panel (LAN 2 IP Address)

5. Use the arrow keys as described in step 2 to input a new IP address, then press **ENTER**. The following message displays ([Figure 3-22](#)) with the default subnet mask of 255.0.0.0.



Figure 3.22. LCD Panel (Input Netmask)

6. Use the arrow keys as described in step 2 to input a new subnet mask, then press **ENTER**. The following message displays ([Figure 3-23](#)) with an IP address whose first three octets (each three decimal digits) are the same as the IP address entered in step 5, and the last octet is set to decimal 254 (or the default gateway IP address of 0.0.0.0 is displayed).



Figure 3.23. LCD Panel (Input Gateway)

7. Use the arrow keys as described in step 2 to input a new gateway IP address, then press **ENTER**. The following message displays ([Figure 3-24](#)) with the default DNS server IP address of 0.0.0.0.

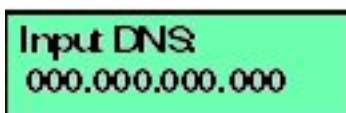


Figure 3.24. LCD Panel (Input DNS)

8. Use the arrow keys as described in step 2 to enter the IP address for the DNS server, then press **ENTER**. The following message displays (Figure 3-25):

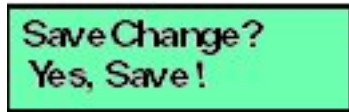


Figure 3.25. LCD Panel (Save Change)

9. Use the up and down arrow keys as described in step 2 to select **YES**, then press **ENTER**. If you saved the changes, a `Wait a moment!!` message displays at the LCD panel and the LCD panel returns to the `LAN 1 Setting??` message.
10. Press the up and down arrow keys until `Return??` is displayed, then press **ENTER**. The LCD panel returns to scrolling mode, which continually displays HAFM appliance operational information.
11. Record the private LAN IP address and subnet mask for reference if the appliance hard drive fails and must be restored.

Configuring Additional Appliance Information

Configure a computer name and workgroup name for the appliance. If required, change the appliance's gateway addresses and domain name system (DNS) appliance IP addresses to conform to the customer's LAN addressing scheme. The gateway addresses are the addresses of the local router for the corporate intranet. Configure these parameters from the appliance's Windows 2000 operating system, using a LAN- attached PC with standard web browser.

Accessing the Appliance Desktop

To login and access the appliance desktop:

1. Ensure the appliance and a browser-capable PC are connected through an Ethernet LAN segment. At the PC, launch the browser application (Netscape Navigator or Internet Explorer).

2. At the PC browser, enter the IP address of the appliance for the LAN to which the PC is connected (LAN 1 or LAN 2), followed by :5800, as the Internet uniform resource locator (URL). Enter the URL in the following format:

`http://xxx.xxx.xxx.xxx:5800`

Where xxx.xxx.xxx.xxx is the default IP address or the IP address configured while performing [Configuring Appliance Password and Network Addresses](#). The VNC Authentication screen displays ([Figure 3-26](#)).



Figure 3.26. VNC Authentication Screen

3. Type the default TightVNC viewer password and click **OK**. The Welcome to Windows dialog box displays ([Figure 3-27](#)). The default TightVNC password is password.

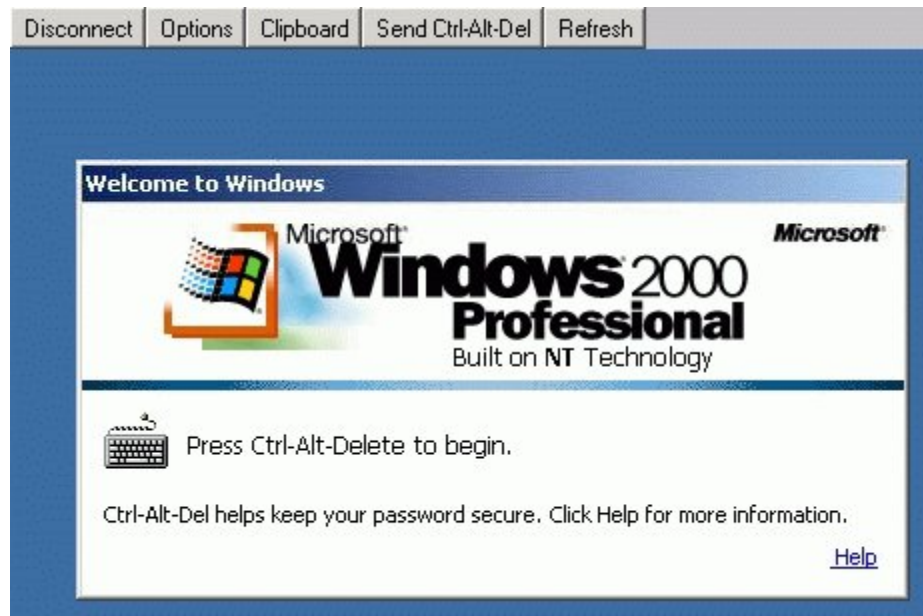


Figure 3.27. Welcome to Windows dialog box

4. Click the **Send Ctrl-Alt-Del** button at the top of the window to log on to the appliance desktop. The Log On to Windows dialog box displays (Figure 3-28).

Note

Do not simultaneously press the Ctrl, Alt, and Delete keys. This action logs the user on to the browser-capable PC, not the appliance.



Figure 3.28. Log On to Windows dialog box

5. Type the default Windows 2000 user name and password and click OK. The appliance's Windows 2000 desktop opens.

Note

The default Windows 2000 user name is Administrator and the default password is password. Both are case-sensitive.

Installing Anti-Virus Software

A Norton AntiVirus software CD-ROM is included in the HAFM appliance kit contents to provide virus protection for the HAFM appliance.

To install the anti-virus software:

1. At the front of the HAFM appliance, press the left edge (PUSH label) of the LCD panel to disengage the panel and expose the CD-RW drive.
2. Insert Norton AntiVirus software CD-ROM into the CD-RW drive and close the LCD panel.
3. Follow the instructions provided on-screen to complete the installation and activate the anti-virus application.

Note

Once you have installed the software, you should obtain regular updates to the application and virus data files from the software vendor. See the vendor documentation and help files for more information.

Configuring Appliance Names

To configure the appliance name and workgroup name:

1. At the Windows 2000 desktop, click **Start** at the left side of the task bar (bottom of the desktop), then select **Settings**, then **Control Panel**. The Control Panel window displays.
2. Double-click the System icon. The System Properties dialog box displays with the General tab selected as the default.
3. Click the Network Identification tab. The System Properties dialog box displays with the Network Identification tab open ([Figure 3-29](#)).



Figure 3.29. System Properties dialog box (Network Identification Tab)

4. Click **Properties**. The Identification Changes dialog box displays ([Figure 3-30](#)).

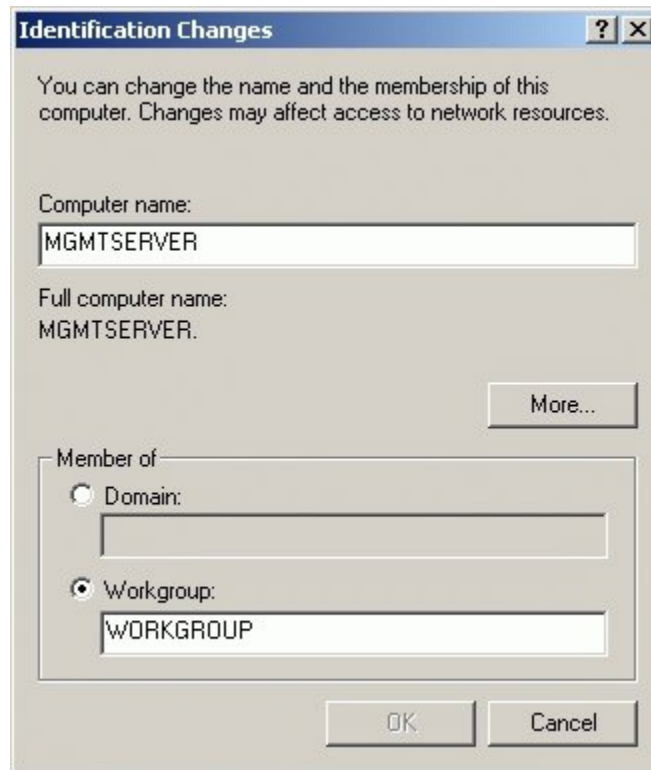


Figure 3.30. Identification Changes dialog box

5. At the **Computer Name** field, change the name to MGMTSERVER.
6. At the **Workgroup** field, change the name to WORKGROUP, then click **OK**. The dialog box closes.
7. Record the computer and workgroup names for reference if the appliance hard drive fails and must be restored.
8. At the System Properties dialog box, click **OK** to close the dialog box and return to the Control Panel window.
9. Click (X) at the upper right corner of the Control Panel window to return to the Windows 2000 desktop.

Configuring Gateway and DNS Server Addresses

To configure gateway addresses and DNS server IP addresses for the private LAN connection (LAN 2) and public LAN connection (LAN 1):

1. At the Windows 2000 desktop, click **Start** at the left side of the task bar (bottom of the desktop), then select **Settings**, then **Control Panel**. The Control Panel window displays.
2. Double-click the Network and Dial-up Connections icon. The Network and Dial-up Connections window displays.
3. To configure addresses for the private LAN connection (LAN 2), double-click the Local Area Connection 2 icon. The Local Area Connection 2 Status dialog box displays ([Figure 3-31](#)).

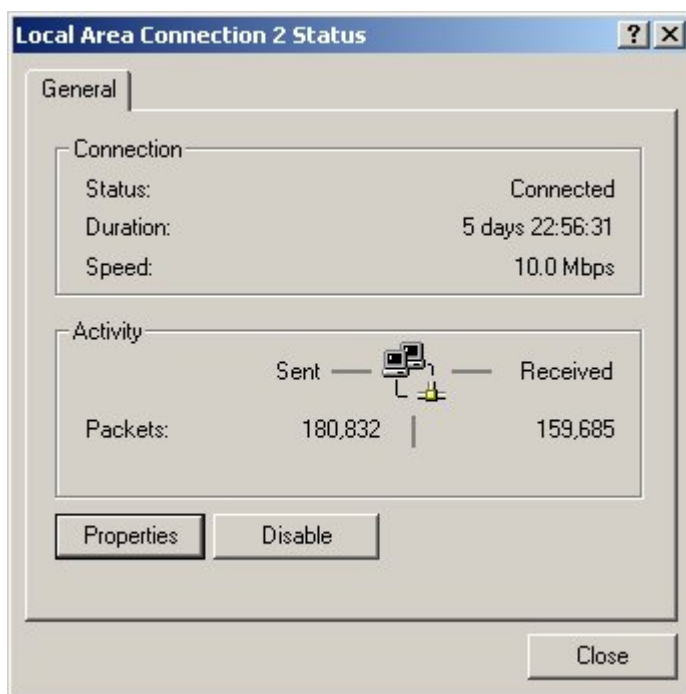


Figure 3.31. Local Area Connection 2 Status dialog box

4. Click **Properties**. The Local Area Connection 2 Properties dialog box displays ([Figure 3-32](#)).

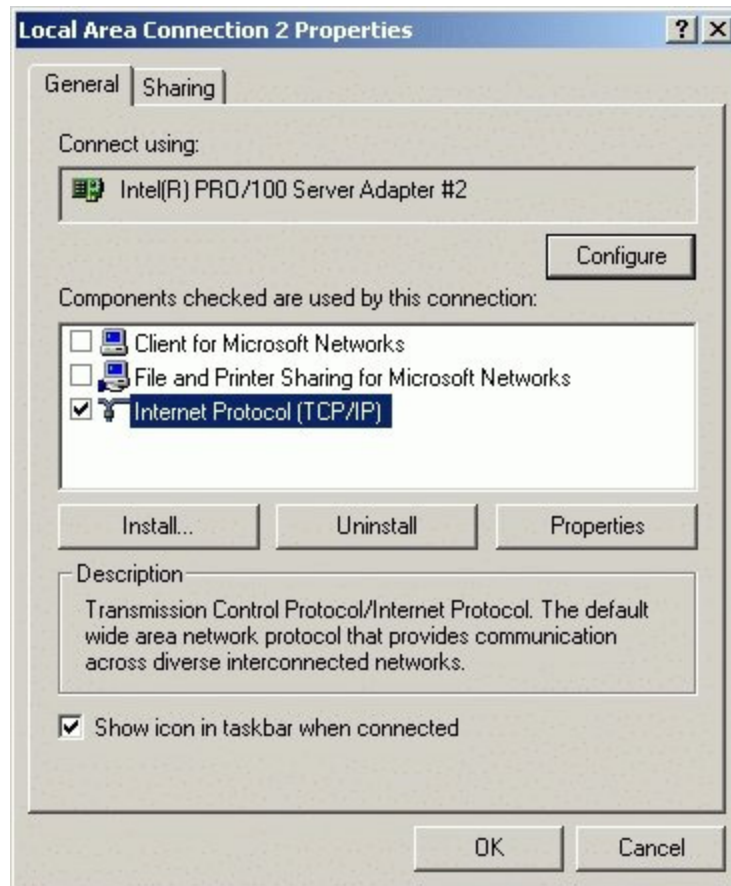


Figure 3.32. Local Area Connection 2 Properties dialog box

5. Double-click the Internet Protocol (TCP/IP) entry. The Internet Protocol (TCP/IP) Properties dialog box displays ([Figure 3-33](#)).

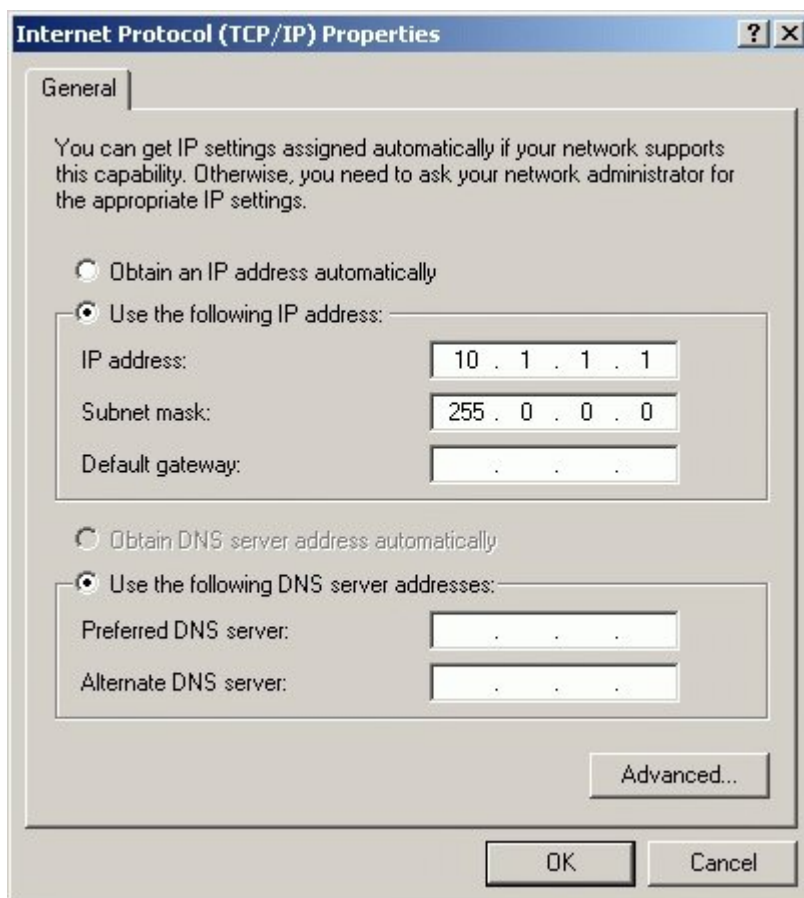


Figure 3.33. Internet Protocol (TCP/IP) Properties dialog box

6. The **Use the following IP address** radio button is enabled and the **IP address** and **Subnet mask** fields display network information configured while performing [Configuring Appliance Password and Network Addresses](#).
7. At the **Default gateway** field, enter the gateway address obtained from the customer's network administrator.
8. Select (enable) the **Use the following DNS server addresses** radio button. At the **Preferred DNS server** field, enter the DNS server IP address obtained from the customer's network administrator, then click **OK** to apply the changes and close the dialog box.
9. Click **OK** to close the Local Area Connection 2 Properties dialog box.

10. Record the changed gateway and DNS server addresses for reference if the appliance hard drive fails and must be restored.
11. To configure addresses for the public LAN connection (LAN 1), double-click the Local Area Connection 1 icon and repeat step 4 through step 10 of this procedure.
12. Click close (X) at the upper right corner of the Network and Dial-up Connections window to return to the Windows 2000 desktop.
13. Reboot the appliance:
 - a. At the Windows 2000 desktop, click **Start** at the left side of the task bar (bottom of the desktop), then select **Shut Down**. The Shut Down Windows dialog box displays.
 - b. At the Shut Down Windows dialog box, select the **Restart** option and click **OK** to reboot the appliance.
 - c. Perform [Accessing the Appliance Desktop](#).

Configuring Windows 2000 Users

Configure password access for all authorized Windows 2000 users. It is also recommended to change the default administrator password. To configure users:

1. At the Windows 2000 desktop, click **Start** at the left side of the task bar (bottom of the desktop), then select **Settings**, then **Control Panel**. The Control Panel window displays.
2. Double-click the Users and Passwords icon. The Users and Passwords dialog box displays ([Figure 3-34](#)).



Figure 3.34. Users and Passwords dialog box

3. The Guest user name is a built-in account in the Windows 2000 operating system and cannot be deleted. The *srvacc* account is for field service users and must not be modified or deleted.

Changing Default Administrator Password

To change the administrator password from the default (*password*) to a customer-specified password:

1. Click the **Send Ctrl-Alt-Del** button at the top of the window surrounding the Users and Passwords dialog box. The Windows Security dialog box displays (Figure 3-35).

Note

Do not simultaneously press the Ctrl, Alt, and Delete keys. This action controls the browser-capable PC, not the HAFM appliance.



Figure 3.35. Windows Security dialog box

2. Click **Change Password**. The Change Password dialog box displays ([Figure 3-36](#)).



Figure 3.36. Change Password dialog box

3. At the **Old Password** field, type the old password. At the **New Password** and **Confirm New Password** fields, type the new password.

Note

The **New Password** and **Confirm New Password** fields are case-sensitive.

4. Click **OK**. The default administrator password changes and the Change Password dialog box closes.
5. Click **Cancel** at the Windows Security dialog box to return to the Users and Passwords dialog box.

Adding a New User

To set up a new Windows 2000 user:

1. At the Users and Passwords dialog box, click **Add**. The first window of the Add New User wizard displays (Figure 3-37).



Figure 3.37. Add New User Wizard (First Window)

2. Type the appropriate new user information in the **User name**, **Full name**, and **Description** fields, then click **Next**. The second window of the Add New User wizard displays (Figure 3-38).



Figure 3.38. Add New User Wizard (Second Window)

3. Type the new user's password in the **Password** and **Confirm password** fields, then click **Next**. The third window of the Add New User wizard displays ([Figure 3-39](#)).



Figure 3.39. Add New User Wizard (Third Window)

4. Based on the level of access to be granted, select the **Standard user**, **Restricted user**, or **Other** radio button. If the **Other** radio button is selected, choose the type of access from the adjacent list box.
5. Click **Finish**. The new user information is added and the wizard closes. Record the user information for reference if the appliance hard drive fails and must be restored.
6. If no other users are to be added, click **OK** to close the Users and Passwords dialog box.
7. Click close (X) at the upper right corner of the Control Panel window to return to the Windows 2000 desktop.

Setting Appliance Date and Time

Audit and event logs are time-stamped with the appliance date and time. All managed product system clocks are synchronized with the appliance date and time by default. To set the appliance date and time:

1. At the Windows 2000 desktop, click **Start** at the left side of the task bar (bottom of the desktop), then select **Settings**, then **Control Panel**. The Control Panel window displays.
2. Double-click the Date/Time icon. The Date/Time Properties dialog box displays with the Date & Time page open (Figure 3-40).

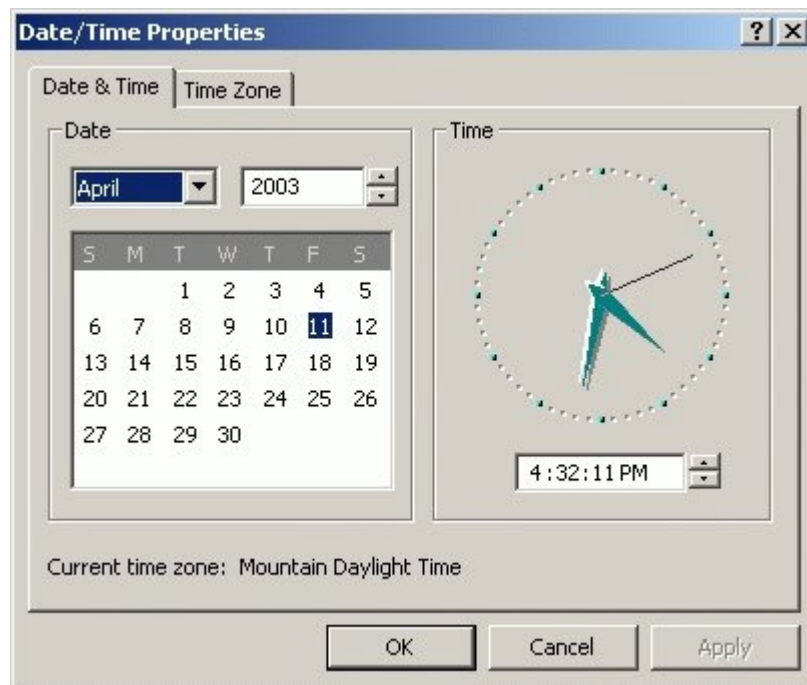


Figure 3.40. Date/Time Properties dialog box (Date & Time Tab)

Note

The Time Zone field must be set before the Date & Time field.

3. Click the Time Zone tab. The Date/Time Properties dialog box displays with the Time Zone page open (Figure 3-41).



Figure 3.41. Date/Time Properties dialog box (Time Zone Tab)

4. To change the time zone:
 - a. Select the appropriate time zone from the drop-down list at the top of the dialog box.
 - b. If instructed by the customer's system administrator, select the **Automatically adjust clock for daylight saving changes** check box.
 - c. Click **Apply**. Record time zone and daylight savings information for reference if the appliance hard drive fails and must be restored.
5. Click the Date & Time tab. The Date/Time Properties dialog box displays with the Date & Time page open.
6. To change the date and time:
 - a. Select the month from the drop-down list.
 - b. Click the up or down arrow adjacent to the year field and select the desired year.
 - c. Click the day on the calendar to select the desired date.
 - d. Click in the time field and enter the desired time, then click the adjacent up or down arrow and select *AM* or *PM*.

- e. Click **Apply**. Record date and time information for reference if the appliance hard drive fails and must be restored.
7. Click **OK** to close the Date/Time Properties dialog box.
8. Click close (X) at the upper right corner of the Control Panel window to return to the Windows 2000 desktop.

Configuring and Enabling Event Notification Features

The HAFM appliance provides the following event notification features:

- Call-home via dial-out — This feature provides automatic dial-out through the modem to a service support facility to report Director or Edge Switch problems. This functionality is provided in the shipped software.
- Proactive Services call-home via LAN — This feature reports events via the LAN to a SANworks Management Appliance or other server running the HP Proactive Services software.

HP Proactive Services software is offered at no additional charge for subsystems covered under an on-site warranty or on-site storage hardware support contract. To order Proactive Services software, contact your Hewlett-Packard customer service representative.

Note

You can choose only one of the two call-home options: call-home via dial-out or call-home via LAN. You can use either feature, but not both.

The HAFM appliance is shipped with the HAFM application installed and the call-home via dial-out feature selected by default. If you prefer to use the Proactive Services call-home via LAN feature, you must:

- Order the Proactive Services software.
 - Uninstall the HAFM application.
 - Reinstall the HAFM application.
 - Select the call-home via LAN option during the HAFM application installation.
-
- E-Mail event notification — This feature enables you to configure e-mail addresses to which event notifications are sent for the HAFM appliance, Directors and Edge Switches.

The following sections describe configuring event notification features:

- Configure the Call-Home via Dial-Out Feature
- Configure Proactive Services Call Home via LAN Feature
- Configure E-Mail Event Notification

Configuring the Call-Home via Dial-Out Feature

The HAFM appliance has a call-home feature that provides automatic dial-out through the modem to a service support facility to report Director, Edge Switch, or HAFM appliance problems. The problem is logged into the support facility's tracking system for resolution.

Obtaining Required Information

You must contact the nearest HP technical support location to obtain some required information prior to beginning this procedure.

Note

Before contacting technical support, please read through this section to familiarize yourself with the steps and information required.

Telephone numbers for worldwide technical support are listed on the HP web site:<http://www.hp.com/country/us/eng/support.html>

Required information includes:

- Call-home phone number
- Workflow Manager (WFM) site ID
- Super Region code

This information is required for the HAFM appliance to place a phone call to the service support facility.

You will be required to provide the following information to obtain this information:

- Company name
- Contact names for primary hours and alternate hours
- Phone numbers for contacts
- Company address

The HAFM appliance has a call-home feature that provides automatic dial-out through the internal modem to a service support facility to report switch problems. The problem is logged into the support facility's tracking system for resolution.

Configuring Call-home Feature

The appliance has a call-home feature that provides automatic dial-out through the internal modem to a service support facility to report switch problems. The problem is logged into the support facility's tracking system for resolution. To configure the call-home feature:

1. There are two jacks on the appliance's internal modem: one for the call-home connection (LINE), and the other for a telephone (PHONE). Ensure a telephone cable is routed and connected to the LINE jack at the rear of the appliance (connected while performing [Installing the Appliance](#)).
2. At the Windows 2000 desktop, double-click the CallHome Configuration icon. The Call Home Configuration dialog box displays ([Figure 3-42](#)).

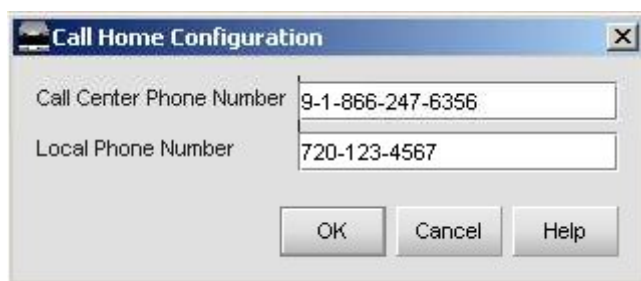


Figure 3.42. Call Home Configuration dialog box

3. At the **Call Center Phone Number** field, enter the telephone number for the HP Solution Center. Include necessary information, such as the country code, area code, or any prefix required to access a telephone line outside the facility.
4. At the **Local Phone Number** field, enter the telephone number for access to the local appliance. Include necessary information such as the country code or area code.
5. Click **OK** to save the configured telephone numbers and close the dialog box.

Enabling Call-Home via Dial-Out

The HAFM appliance is now configured to automatically dial-out through the modem to a service support facility to report Director, Edge Switch, or HAFM appliance problems.

You must now enable the call-home feature on the HAFM appliance itself, as well as each Director and Edge Switch, through the HAFM application on the HAFM appliance. Also, identification information must be entered for each Director and Edge Switch to complete the call-home via modem configuration.

To enable the call-home feature on the HAFM appliance, Directors and Edge Switches:

1. Log in to HAFM (see [Accessing the Appliance Desktop](#)). The HAFM main window displays, as shown in [Figure 3-43](#).

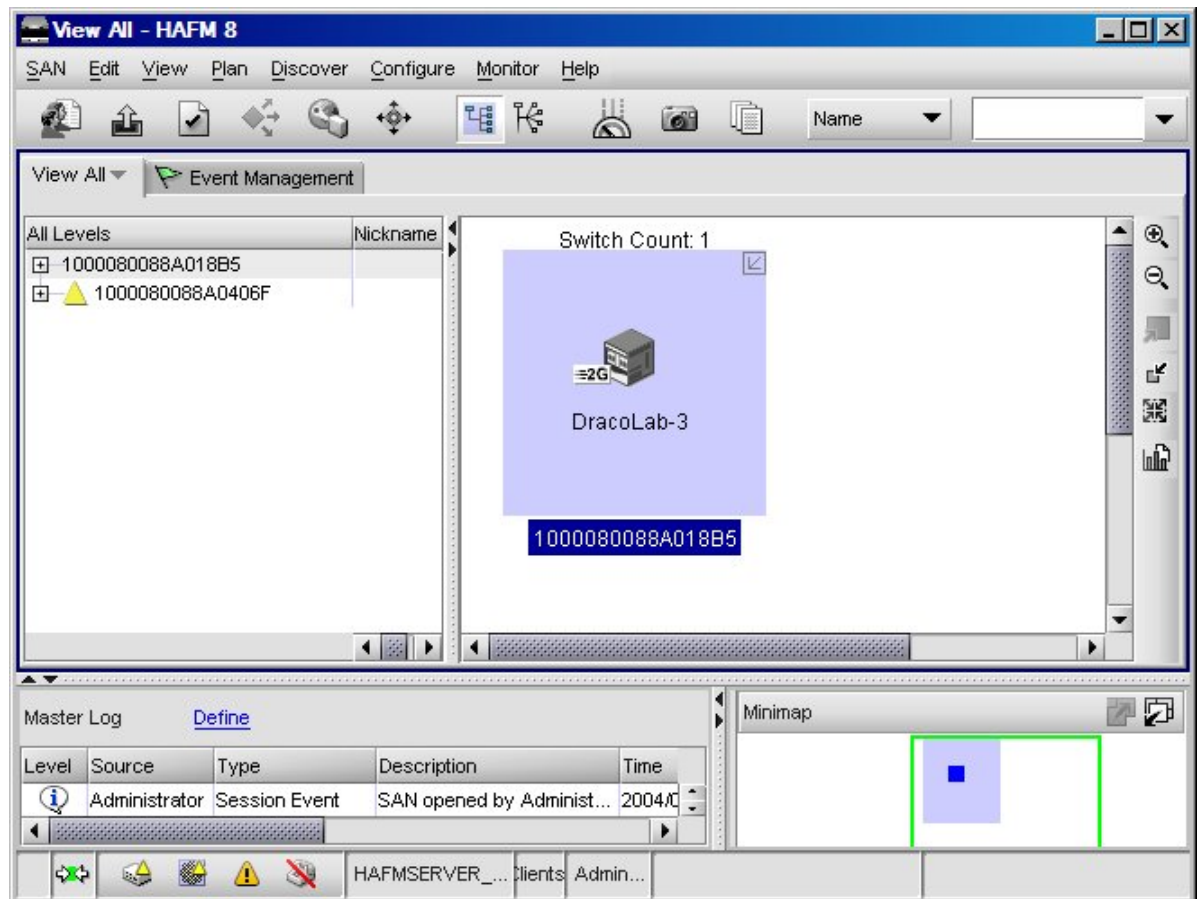


Figure 3.43. HAFM main window

2. Select **Monitor > Event Notification > Call Home....** The Call Home Event Notification Setup dialog box displays, as shown in [Figure 3-44](#).

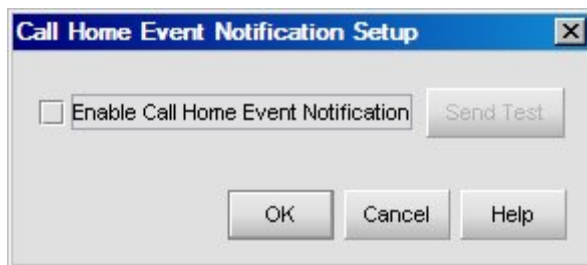


Figure 3.44. Call Home Event Notification Setup dialog box

3. Place a check mark in the **Enable Call Home Event Notification** option. This enables the call-home function for the HAFM appliance, as well as for all Directors and Edge Switches that have also been enabled for call-home notification.

Configuring Identification Information for Directors and Edge Switches

This procedure describes how to configure identification information for each Director and Edge Switch that is managed by the HAFM appliance.

Repeat this procedure for each Director or Edge Switch you want to configure for call-home event notification

Note

In order for Directors and Edge Switches to be managed by the HAFM appliance, you must first add them using the HAFM application. Refer to the *hp StorageWorks HA-Fabric Manager User Guide* for more information.

Complete the following steps for each Director or Edge Switch managed using HAFM:

1. From the HAFM main window, double-click on the icon for the device. The Hardware View for the device is displayed.
2. On the menu bar, select **Configure > Identification**. The Configure Identification dialog box displays, as shown in [Figure 3-45](#).

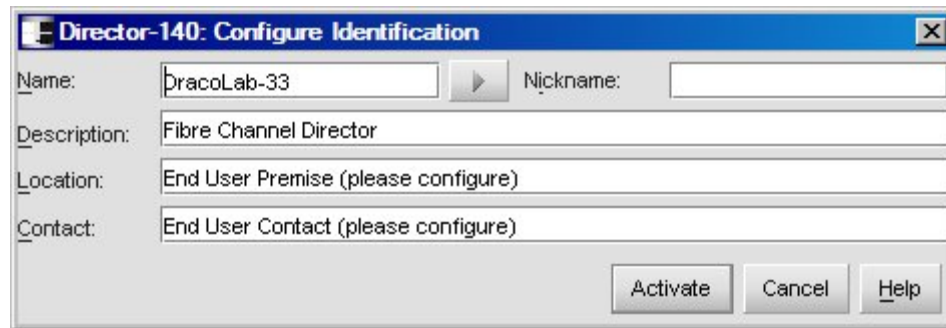


Figure 3.45. Configure Identification dialog box

3. Replace the default text with the following entries:
 - Name — Enter a name for this Director or Edge Switch as appropriate for your SAN. Click **Set Name As Nickname**, which will display a check mark in the box. This will be the name that will be displayed with the icon for this Director or Edge Switch in the HAFM Product View and Fabric View displays.
 - Description — Enter the address of your installation.
 - Location — Enter the WFM Site ID and Super Region code, as obtained in [Obtaining Required Information](#), separated by “~” (tilde) characters, as shown in the following example
US1234567890~AA
 - Contact — Enter the contact name, phone number, and company name exactly as provided to HP in [Obtaining Required Information](#), separated by “~” (tilde) characters, as follows:
FirstName~LastName~PhoneNumber~CompanyName
For example:
Joe~Smith~5085551515~ABCCompany
4. Click **Activate**. The Configure Identification dialog box closes and the Element Manager window at the Hardware View for this device is still displayed.
5. On the menu bar, select **Maintenance > Enable Call Home Notification**.
6. Place a check mark in the **Enable Call Home Event Notification** option.
7. See [Testing Remote Notification](#) for instructions on testing the call-home feature.

Configuring Proactive Services Call Home via LAN Feature

The HAFM appliance call-home via LAN feature provides automatic event notification to a support center for reporting Director or Edge Switch problems. In order to report events, this feature requires the HAFM appliance to have a valid LAN connection to a SANWorks Management Appliance or other server running the HP Proactive Services software.

Note

To order Proactive Services software, contact your HP customer service representative.

Configuring Call-Home via LAN on the HAFM Appliance

Use these steps to configure call-home on the HAFM appliance.

1. Verify that the HAFM appliance is connected to a LAN with access to the server running the HP Proactive Services software.
2. Locate the `hp-lan.properties` file in the following location:
`<install_home>\CallHome\Config`
Following is an example of file contents:
`CSGIpAddress=localhost`
3. Using any ASCII text editor, make the following changes to the `hp-lan.properties` file:
 - a. `CSGIpAddress` — Delete `localhost` and enter the IP address of the HP Services Gateway in appropriate format (`xxx.xxx.xxx.xxx`).
4. If you have changed the contents of the `hp.lan.properties` file, reboot the HAFM appliance.

Enabling Call-Home via LAN

The HAFM appliance is now configured to automatically call-home through the LAN connection to a service support facility to report Director, Edge Switch, or HAFM appliance problems.

You must now enable the call-home feature on the HAFM appliance itself as well as each Director and Edge Switch through the HAFM application on the HAFM appliance.

To enable the call-home feature on the HAFM appliance:

1. Log in to HAFM (see [Accessing the Appliance Desktop](#)). The HAFM main window displays, as shown in [Figure 3-43](#).
2. Select **Monitor > Event Notification > Call Home....** The Call Home Event Notification Setup dialog box displays, as shown in [Figure 3-44](#).
3. Place a check mark in the **Enable Call Home Event Notification** option. This enables the call-home function for the HAFM appliance, as well as for all Directors and Edge Switches that have also been enabled for call-home notification.

To enable the call-home feature on individual Directors and Edge Switches, perform the following for each Director and Edge Switch:

1. From the HAFM main window, open the Element Manager for the device. The Hardware View for the device is displayed.
2. Select **Maintenance > Enable Call Home Notification**.
3. Place a check mark in the **Enable Call Home Event Notification** option.
4. See [Testing Remote Notification](#) for instructions on testing the call-home feature.

Testing Remote Notification

If call-home notification features are enabled, set up the HAFM application to test these remote notification features. Because the features are configured at the HAFM application, call-home event notification is enabled for multiple Directors and Edge Switches.

Note

Prior to testing remote notification, complete the steps in the previous sections:

- Configure the Call-Home via Dial-Out Feature
- Configure Proactive Services Call Home via LAN Feature

To test remote notification:

1. Enable call-home event notification through the HAFM appliance.
 - a. Select **Monitor > Event Notification > Call Home....** The Call Home Event Notification Setup dialog box displays, as shown in [Figure 3-44](#).
 - If a check mark displays in the check box, call-home is enabled.
 - If a check mark does not display in the check box, click the box to add a check mark.
2. Click **Send Test**. A Call-home test message is transmitted and an Information dialog box displays.
3. Click **OK**.
Confirm with the HP technical support representative assisting you with configuration of the call-home feature that the call-home test was successful.

Configuring E-Mail Event Notification

In addition to call-home functionality, notifications of many events can be sent via e-mail. You can configure e-mail addresses for administrators or others who should be notified of significant product events.

For information on configuring e-mail event notification, see *hp StorageWorks HA-Fabric Manager User Guide*.

Appendix A. Regulatory and Safety Information

Use this publication if you are a trained installation and service representative experienced with appliances, storage area network (SAN) technology, and Fibre Channel director and switch technology.

The product contains no serviceable parts that require internal access during normal operation or prescribed maintenance conditions.

This appendix covers the following topics:

- Regulatory Compliance ID Numbers, page 51
- Federal Communications Commission (FCC) Notice, page 51
- Canadian Notice (Avis Canadien), page 53
- European Union Notice, page 54
- Japanese Notice, page 54
- Taiwanese Notice, page 55
- German Noise Declaration, page 55
- Electrostatic Discharge, page 55
- Grounding Methods, page 56
- FCC Part 68 Notice, page 56
- Canadian DOC Notice, page 57
- R&TTE Directive, page 58
- Declaration of Conformity, page 58

Regulatory Compliance ID Numbers

For the purpose of regulatory compliance certifications and identification, your HP StorageWorks High Availability Fabric Manager (HAFM) appliance is assigned a Hewlett-Packard Regulatory Model Number. The Hewlett-Packard Regulatory Model Number for this product is:

BOISA-0304

The HP StorageWorks HAFM appliance Regulatory Model Number can be found on the product label, along with the required approval markings and information. When requesting certification information for this product, always refer to this Regulatory Model Number. This Regulatory Model Number should not be confused with the marketing name or product number for your HAFM appliance.

Federal Communications Commission (FCC) Notice

Part 15 of the Federal Communications Commission (FCC) Rules and Regulations has established Radio Frequency (RF) emission limits to provide an interference-free radio frequency spectrum. Many electronic devices, including computers, generate RF energy incidental to their intended function and are, therefore, covered by these rules. These rules

place computers and related peripheral devices into two classes, A and B, depending upon their intended installation. Class A devices are those that may reasonably be expected to be installed in a business or commercial environment. Class B devices are those that may reasonably be expected to be installed in a residential environment (i.e., personal computers). The FCC requires devices in both classes to bear a label indicating the interference potential of the device as well as additional operating instructions for the user.

The rating label on the device shows which class (A or B) the equipment falls into. Class B devices have an FCC logo or FCC ID on the label. Class A devices do not have an FCC logo or FCC ID on the label. Once the class of the device is determined, refer to the following corresponding statement.

Class A Equipment

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Declaration of Conformity for Products Marked with FCC Logo—U.S. Only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, refer to <http://www.hp.com>.

For questions regarding this FCC declaration, contact:

Hewlett-Packard Company Product Regulations Manager 3000 Hanover St. Palo Alto, CA 94304

Or call 1-650-857-1501

To identify this product, refer to the part, Regulatory Model Number, or product number found on the product.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett-Packard Company may void the user's authority to operate the equipment.

Network and Serial Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

IEC EMC Statement (Worldwide)

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Spécification ATI Classe A (France)

DECLARATION D'INSTALLATION ET DE MISE EN EXPLOITATION d'un matériel de traitement de l'information (ATI), classé A en fonction des niveaux de perturbations radioélectriques émis, définis dans la norme européenne EN 55022 concernant la Compatibilité Electromagnétique.

Canadian Notice (Avis Canadien)

Class A Equipment

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Class B Equipment

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union Notice



Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (the equivalent international standards are in parenthesis):

- EN 55022 (CISPR 22) - Electromagnetic Interference
- EN55024 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11) - Electromagnetic Immunity
- Power Quality:
 - EN61000-3-2 (IEC61000-3-2) - Power Line Harmonics
 - EN61000-3-3 (IEC61000-3-3) - Power Line Flicker
- EN 60950 (IEC 60950) - Product Safety
- Also approved under UL 1950, 3rd Edition/CSA C22.2 No. 950-95, Safety of Information Technology Equipment

Japanese Notice

ご使用になっている装置にVCCIマークが付いていましたら、次の説明文をお読み下さい。

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

VCCIマークが付いていない場合には、次の点にご注意下さい。

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

TELECOMMUNICATIONS NOTICE FOR JAPAN

The modem supplied with this equipment, part number MT5634ZPX-PCI, is approved for use in Japan. The Japanese approval number is A00-1160JP.

Taiwanese Notice

警告使用者：這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

German Noise Declaration

Schalldruckpegel $L_p = 64.4$ dB(A) Am Arbeitsplatz (operator position) Normaler Betrieb (normal operation) Nach ISO 7779:1988 / EN 27779:1991 (Typprüfung)

Electrostatic Discharge

To prevent damage to the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

To prevent electrostatic damage, observe the following precautions:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always make sure you are properly grounded when touching a static-sensitive component or assembly.

Grounding Methods

There are several methods for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm \pm 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heel straps, toe straps, or bootstraps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an Authorized HP Reseller install the part.

Note

For more information on static electricity, or assistance with product installation, contact your Authorized HP Reseller.

FCC Part 68 Notice

This notice is applicable to products fitted with USA modems.

The modem complies with Part 68 of the FCC Rules. On this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

If your telephone equipment causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify in advance. But, if advance notice is not practical, you will be notified as soon as possible.

You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect proper operation of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

The FCC prohibits this equipment to be connected to party lines or coin-telephone service.

The FCC also requires the transmitter of a FAX transmission be properly identified (per FCC Rules Part 68, Sec. 68.381 (c) (3)).

Canadian DOC Notice

This notice is applicable for products fitted with an Industry Canada-compliant modem.

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user satisfaction.

Before installing this equipment, users ensure that it is permissible to be connected to the facilities of the local Telecommunications Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment,

or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present are connected together. This precaution may be particularly important in rural areas.



Caution

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the sum of the Load Numbers of all the devices does not exceed 100.

R&TTE Directive



This directive is applicable to products fitted with European modems.

This modem does not require any physical and/or software additional switch settings from the User and is suitable for use only on telephone lines provided with Multi-Frequency Dialing facilities.

The equipment has been approved in accordance with Council Decision 99/5/EC on radio equipment and terminal telecommunication equipment and the mutual recognition of their conformity.

Declaration of Conformity

The Declaration of Conformity is shown below.

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  invent | DECLARATION OF CONFORMITY According to ISO/IEC Guide 22 and EN 45014 |
| Manufacturer's Name: | Hewlett-Packard Company |
| Manufacturer's Address: | 11311 Chinden Blvd. Boise, ID 83714 USA |
| Declares, that the product | |
| Product Name: | hp StorageWorks High Availability Fabric Manager (HAFM) Server |
| Product Number: | 335701-B21 and DS-DMAEE-AA |
| Regulatory Model Number: | BOISA-0304 |
| Product Options: | All |
| Conforms to the following Product Specifications: | |
| Safety: | IEC 60950:1999 / EN 60950:2000 GB 4943:1995 IEC 60825-1:1993+A1 / EN 60825-1:1994+A11, Class 1 (Laser/LED) |
| EMC: | CISPR 22:1997 / EN 55022:1998 Class A 1 GB 9254:1988 CISPR 24:1997 / EN 55024:1998 IEC 61000-3-2:1995 / EN 61000-3-2:1995+A14 IEC 61000-3-3:1994 / EN 61000-3-3:1995 |
| Telecom: | TBR 21:1998 |
| Supplementary Information: | |
| The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC, the EMC Directive 89/336/EEC, and the R&TTE Directive 1999/5/EC (Annex II) and carries the CE-marking accordingly. | |
| 1) The Product was tested in a worst-case configuration which maximizes RFI emissions. | |
| Boise, ID USA August 4, 2003 | |
|  Mac McClendon, Regulatory Mgr. | |
| European contact for regulatory topics only: Hewlett-Packard GmbH, HQ-TRE, Herrenberger Strasse 140, and D-71034 Böblingen (FAX: + 49-7143-14-3143) | |

Appendix B. Tools Required

Tools required to install the HAFM appliance and associated hardware include a:

- Door key with 5/16-inch socket (provided with the cabinet).
- #2 Phillips screwdriver.
- 5/16 open-end wrench.
- Standard (7-inch) slip-joint pliers.
- Standard (4-inch) diagonal side-cutter pliers.

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